A NEW METHOD

OF

RECONSTRUCTING THE LOWER LIP AFTER ITS REMOVAL FOR DISEASE:

ILLUSTRATED BY TWO CASES OF EPITHELIOMA.

BY

GURDON BUCK, M. D.,

SURGEON TO NEW YORK HOSPITAL AND ST. LUKE'S HOSPITAL,
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EXTRACTED FROM THE
TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

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A NEW METHOD OF RECONSTRUCTING THE LOWER LIP AFTER ITS REMOVAL FOR DISEASE, ILLUSTRATED BY TWO CASES OF EPITHELIOMA.

Mr. C. W., resident of Bridgeport, Connecticut, ætat. 47 years, of fair complexion and spare habit, first noticed, about two and a half years ago, a small spot on the margin of the lower lip near its centre, that became covered with a thin scab, that detached itself and was succeeded by another. At a later period he noticed a subjacent hardness. One year and a half after its appearance he became concerned about it and showed it to his physician, who advised its removal by a V incision. The patient, averse to so extensive a mutilation, urged its being sliced off, and then freely cauterized. To this alternative his physician reluctantly assented, but not without protest. He operated in August, 1866. The wound did not entirely heal. This failure after the use of the knife, and the importunate solicitation of friends determined Mr. W. to put himself under the treatment of N——n, of New York City, and subsequently of O——t, of Port Chester, New York, notorious cancer quacks. Successive applications of escharotics were made to the sore; the last about four weeks ago; the effect of which was to cause it to spread in every direction.

Its present condition (August 25, 1867) is as follows: The lower lip is destroyed except half an inch of border at each angle of the mouth, which is still sound and of healthy aspect. The space between what remains of the lip is occupied by an ulcerated surface that extends downward to the commencing swell of the chin. The margins of the ulcer are uneven, swollen, red, and firm, and tender on pressure. The surface of the sore, consisting of periosteum, is swollen and of a dirty grayish aspect. Near the centre of this surface a probe encounters subjacent rough bone. The ulceration also extends over the alveolar border of the jaw from which all the incisor teeth have dropped out. The frænum linguæ is swollen at its base and involved in the ulceration. The canine teeth on either

side are loose, ready to drop out, and discolored; the discoloration affects also the alveolar sockets of the incisors. A constant flow of saliva is a source of the greatest discomfort. No glandular enlargements are to be felt below the jaw.

The patient wears an artificial covering that conceals the sore and imitates the appearance of the lower lip; his general health has not suffered apparently.

Fig. I. represents the extent of the disease.

Operation.—At 1 o'clock P. M. the following operation was performed at Mr. W.'s lodgings, on Fourth Avenue, with the aid of Prof. A. C. Post, Dr. Robert F. Weir, and others.

Mr. A. L. Northrop, a skilful dentist, of No. 10 West Eleventh Street, was also present to render his professional services.

Patient having been fully etherized, Mr. N. extracted several teeth, including the lower canines. Reference was had, in so doing, to the adaptation subsequently of an artificial plate of vulcanite to supply the front teeth, and support the new lip about to be constructed. A vertical incision, commencing on either side at the labial border, near the angle of the mouth, was carried downward along the margin of the ulcer, far enough, however, from it, to pass through sound skin. In their descent these incisions curved outward before converging to meet at an angle far below the chin. (See Fig. I. A to B, A to C.) The entire diseased surface was thus included in a triangular patch, which was dissected up from the periosteum. Lüer's gouge shaped bone forceps was then used to gnaw away the alveolar border of the jaw, so as to include the sockets of all the incisor and canine teeth. The anterior surface of the jaw, where the escharotics had divided the bone, was also gnawed away. To supply the removed parts, and reconstruct the lip, the following method was adopted: after dividing the buccal mucous membrane along the line where it quits the lower jaw and coats the cheek, as far back as beyond the last molar tooth, all the superjacent coverings were dissected up from the periosteum, and the detachment was continued on the same level below the edge of the jaw. This permitted the edges of the wound to be approximated in the median line and secured in apposition without any strain upon the sutures. Three pin sutures, wound with yarn, and intermediate interrupted sutures were employed for this purpose. The scanty lower lip, thus readjusted, was less than an inch in length, while the upper lip was doubled upon itself, and stood out very prominent, as shown in Fig. II. In order to increase the length of

the lower lip, a portion of the vermilion on the border of the upper lip adjacent to the angle of the mouth on both sides was transposed in the following manner.

With strong scissors the upper lip and cheek were divided in their entire thickness at three-fourths of an inch from the angle of the mouth, in a direction upward and outward to a distance of one inch and a half. (See Fig. II. A to B.) The border of that portion of the upper lip connected on either side with the angle of the mouth, was then detached by a section running half an inch distant from the vermilion margin and extending to a point at the same distance below the angle, as in Fig. II. C to D. From the last point of termination a horizontal incision through the entire thickness of the cheek was carried outward far enough to make room to allow the strip of lip-border just detached to be laid down on a line continuous with the lower lip, Fig. II. D to E. From the end of this last incision, another incision was carried upward and a little forward to the termination of the first incision through the upper lip, Fig. II. E to B. The triangular patch included with its apex above was removed, Fig. III. A B C. The strip of lip-border (Fig. III. D), was now brought down and stitched in place along the line B C. The triangular space was closed by approximating the edges of the wound forming the apex of the triangle, and securing them in apposition by one pin suture below, and interrupted sutures closely inserted above. The upper lip that in this case was of ample dimensions, had thus supplied the deficiency of the lower lip, new angles had been formed for the mouth, and a well-shaped symmetrical mouth of sufficient dimensions was the result, Fig. IV. The adhesive plaster was used. Nearly three hours were occupied in the operation, frequent interruptions being necessary to maintain the effect of the ether. Though the loss of blood was considerable, the patient's strength was not much depressed, nor his pulse much reduced. Tepid water-dressings were directed to the face, and stimulants and beef-tea ordered to be administered. Without detailing the daily progress of the case after the operation, it will be sufficient to state that the subsequent constitutional reaction was moderate, and the inflammatory swelling of the parts at no time excessive. Union by first intention took place throughout every part of the wound. The only point at which there was any suppuration was at the angle of the wound under the chin, and that was inconsiderable. The yarn was changed upon the suture pins daily to relieve the constriction that

otherwise might have caused ulceration. The alternate thread sutures were removed after the second day, and the remainder as well as the pin sutures were removed in succession daily as they could be safely dispensed with. At the expiration of six days all the sutures had been removed and the patient was able to ride out.

Early in the month of November following, Mr. W. presented himself for further advice. In the middle of the most prominent part of the chin the skin was red, swollen, and hard; under the tongue and behind the symphysis there was a hard lump, of the size of a chestnut, firmly adherent to the bone. The surrounding parts were in all respects apparently sound, and his general health was good. This early manifestation of a return of the disease seemed to indicate that some germs of it had been left behind at the root of the frænum linguæ. The entire lower lip, to the extent of a finger's breadth below the vermilion border, being sound, it was thought practicable to remove all the diseased parts without involving the lower lip. In carrying out the plan, however, the front portion of the jaw would have to be removed. There being no other alternative, but leaving the disease to pursue its ravages unchecked, the patient decided to submit to another operation.

Second Operation.—On the 7th November the following operation was performed, after the administration of ether: A transverse incision was made across the chin, at a finger's breadth below the vermilion border of the lip, from opposite one canine tooth to the other. From the ends of this incision two others were directed downwards, converging toward each other, and meeting at an angle in the median line upon the upper part of the neck. Within the triangular space thus inclosed, were contained all the parts that required to be removed. The bone on either side was exposed, and a track opened around it in the situation of the canine tooth, for the passage of the chain saw with which the jaw was divided. The included fragment, with the tumor attached, was then removed. In doing this, the muscles inserted into the symphysis were necessarily divided, and the anterior support of the tongue removed. At this moment respiration became obstructed, and symptoms of asphyxia showed themselves. No time was lost in passing a needle armed with a coarse thread through the tongue with which a loop was formed to hold it forward, and relieve the entrance of the larynx. After securing the bleeding arteries, the transverse incision was extended further outward at both extremities, and the

lateral edges of the triangular space dissected up so as to facilitate their approximation in the median line. In the absence of the projecting portion of the jaw, this was readily accomplished, and the exact coaptation of the edges secured by three pin sutures, wound with yarn, and numerous interrupted thread sutures closely inserted. Before closing the wound, the fresh cut ends of the jaw were perforated, a silver wire was then passed transversely through the under surface of the tongue near its extremity, and its ends brought out through the perforated bone and secured; as an additional precaution the looped ligature was left in the tongue, and moderate traction kept up upon it for the first few hours after the operation.

The patient's progress after this second operation, as after the first, was very favorable. Union by first intention took place throughout almost the entire wound. On the fifth day the silver wire securing the tongue was removed, all the other sutures having already been removed in succession. On the tenth day, the patient was able to leave the city, accompanied by his wife, to make a visit to a relation's house in the country.

April 16th, 1868. Patient presented himself for examination. A luxuriant growth of beard concealed the scars and disfigurement of the face. Articulation was scarcely at all impaired. The tongue could be protruded an inch beyond the lips. The saliva was controlled within the mouth. The two sides of the jaw had come into contact at their cut extremities, and were immovably consolidated. This necessarily prevented mastication, as the upper and lower teeth no longer confronted each other. He could no longer make use of solid food unless it had been previously reduced very fine. During the preceding winter his general health had suffered considerably from deranged digestion consequent upon the privation of mastication. He had, however, of late become accustomed to the change of diet, and had discovered how best to manage his food. All the parts bordering on the former seat of disease were free from induration, and to all appearance sound. Fig. V. shows the result.

CASE II.—Henry Folk, native of Germany, æt. 67 years, admitted into New York Hospital, Ward IX., South House, July 9th, 1867. It will be sufficient for our purpose to state that the lower lip was invaded by well-characterized epithelioma to an extent requiring, for its extirpation, the removal of all its free border, except about half an inch at each angle of the mouth. The disease had existed

about eighteen months. There were no glandular enlargements in the vicinity, and the patient's general health was good.

Operation was performed July 12th under the influence of sulphuric ether. In this case the operation differed from that performed in Case I. in the removal of the diseased parts by including them in a quadrilateral instead of a triangular patch. After this was done the transverse incision crossing the upper margin of the chin was extended outward at each extremity toward the cheek. The flaps thus formed were dissected up from the periosteum, and the buccal mucous membrane was divided on the line where it quits the jaw to cover the inside of the cheek as far back as the last molar tooth. This permitted the edges of the lateral flaps to be approximated in the median line and secured in exact apposition without any strain upon the sutures. Three pin sutures wound with yarn and intermediate fine thread sutures were used for the purpose. The edges of the remaining transverse portion of the wound were adjusted with fine interrupted sutures inserted close together. This was all that was attempted in this operation. The lengthening of the lower lip was reserved for a subsequent operation. In this respect also the operation in this case differed from that in Case I.

Patient did well after the operation. The treatment was the same as in the first case. Union by first intention took place throughout the entire wound. On the sixth day all the sutures had been removed.

Fig. II. shows the result. The lower lip is scarcely one inch in length; the upper is doubled upon itself, and stands out very prominent.

Second Operation.—On the 23d July, eleven days after the first operation, a second operation was performed for the purpose of lengthening the lower lip at both angles of the mouth. This was done by the same procedure as was employed in Case I., a description of it therefore need not be repeated. Patient's progress after this second operation was not as favorable as after the first. Union by first intention took place only to a very limited extent. The edges of the wound became sloughy and the greatest care was necessary to maintain them in apposition while appropriate applications were made to restore a healthy action and promote healing by granulation. By means of strips of adhesive plaster carefully applied and sutures introduced at certain points, and also by vivify-

ing the edges and securing them in contact with sutures, union was at length obtained throughout the entire wound.

The cautious application of nitric acid to the sloughy parts after thorough cleansing with salt and water, and the administration of tonics, stimulants, and nutritious food, were the means which, after long perseverance, finally secured the desired result. On the 30th August, patient was discharged cured. Though the result obtained is less perfect than it would have been had primary union been secured, the new mouth is of sufficient dimensions and symmetrical in shape. Fig. VI. shows the final result.

Remarks.—The principle of supplying a deficiency of the lip-border by a transfer of an adjacent portion is not claimed to be new. The cases within the knowledge of the author to which it has been applied are found in the *Œstreich. Zeitschrift für Practisch. Heilkunde*, Vienna, March 13, 1857. Two of the cases there reported were operated on by Langenbeck, and one by Sedillot. In all of them adjacent lip-border was detached and slid forward to fill up a neighboring deficiency. Reflecting upon these cases, and considering in what way other applications of the principle might be made, the author was led to devise the method illustrated in this paper by the two cases just narrated.

These cases, it will be observed, occurred in the inverse order in which they are reported. The experience furnished by Case II. (the first in order of occurrence), in which two separate operations were performed to attain the final result, determined the author to carry out in Case I. the whole procedure in a single operation, and also to vary the method so as to include the diseased parts requiring removal in a triangular instead of a quadrilateral patch. The unfavorable progress after the second operation in Case II., and the failure to heal by primary union, may fairly be attributed to the patient's deteriorated condition, produced partly by the depressing effects of the first operation, and partly by the adverse conditions incident to a protracted confinement within the walls of a hospital. Though a greater local injury is inflicted by completing the whole procedure in a single operation, and consequently a greater task imposed on the reparative forces of the system, the task would seem to be better sustained in a single effort, than when it is attempted to lighten the task by dividing it into two.

It is besides no unimportant advantage to spare the patient the

anticipation of a second operation, which is never without a depressing influence upon the spirits. The advantage of the triangular over the quadrilateral method of removing the diseased parts is, that the linear cicatrix in the median line resulting from the former method is much less conspicuous and consequently less disfiguring than the transverse cicatrix crossing the chin and cheeks, resulting from the latter.

Where the front teeth of the lower jaw are wanting, it is an advantage to have an artificial fixture of vulcanite adapted to supply the place of the teeth, and afford support to the new lip.

The adaptation of this fixture falls within the province of a dentist, and it should be fitted before the operation, and put in use early after the parts have healed. Compared with other established methods of reconstructing the lower lip in which flaps are taken from the adjacent cheeks, our method may claim the important advantage of affording a better shaped lip, and one that retains its natural action by virtue of the fibres of the orbicular muscle preserved in the transferred lip-border.

Fig. 1.

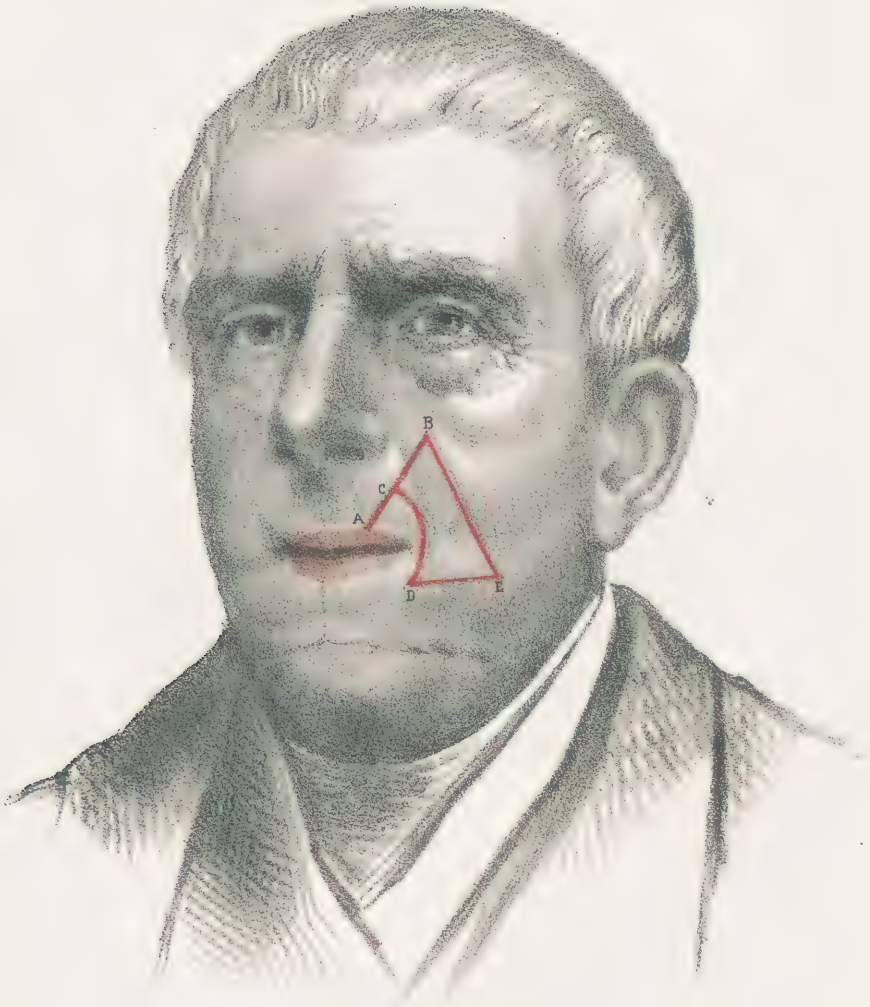
B
C
A
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Fig. III.

Fig. IV.

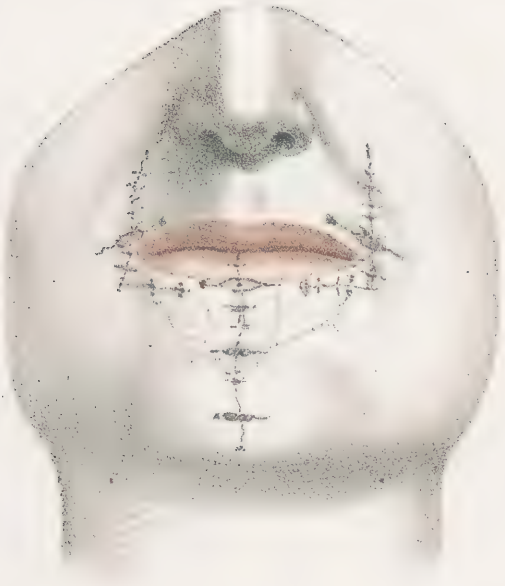

Fig V

Fig. VI.